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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/532,380

04/21/2005

Claus Bischoff

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EXAMINER

VANAMAN, FRANK BENNETT

ART UNIT

PAPER NUMBER

3618

MAIL DATE

DELIVERY MODE

12/30/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/532,380	Applicant(s) BISCHOFF ET AL.	
	Examiner Frank B. Vanaman	Art Unit 3618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on Oct 23, 2008 has been entered.
2. Claims 12-25 are pending, with claims 24 and 25 being newly added.

Claim Rejections - 35 USC § 102

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 12-14 and 16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kinugasa et al. (US 5,924,406). Kinugasa et al. teach a method for operating a motor vehicle which includes a drive train whose purpose is to provide mechanical power (output of 112) and electrical power (output of 122), the drive train including a transmission (112), wherein a plurality of characteristic operating maps are provided (see figures 7A, 7B) the selection of the maps based on mechanical and/or electrical power by consumers distinct from the vehicle energy storage device (123), wherein the characteristic map provides for the setting of an operating point based on at least kinematic (e.g., speed, 'X' axis, figures 7A, 7B) and dynamic (e.g., set-point torque, 'Y' axis, figures 7A, 7B) degrees of freedom, the energy storage device supplying a parameter indicative of its condition (energy stored in the storage device, understood to be analogous to a state of charge); the power requirement being determined by accounting for the available power in the storage device and the amount of power required by the consumers, the arrangement including the definition of a power stage (step [3], col. 6, lines 56-63, taking into account quantity ΔP and the condition of the energy storage device, wherein at least the measurement of ΔP serves as a factor in selecting the characteristic map), and wherein a variable representing the actual

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driving speed of the vehicle (note col. 7, lines 13-25, particularly lines 22-23) may be taken into account in the control of the auxiliary equipment, and thus, indirectly, the selection of characteristic map. See at least col. 5, lines 13-26, col. 5, lines 49-59, col. 6, lines 33-41, col. 6, lines 56-63 and col. 7, lines 13-25.

Claim Rejections - 35 USC § 102/103 and §103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claim 21 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kinugasa et al. The reference to Kinugasa et al. is discussed above, and teaches that the arrangement is usable in a vehicle having a transmission. The reference does not explicitly teach that the transmission is 'controlled' however it is either deemed inherent that a vehicle transmission is 'controlled' to the breadth this limitation is actually recited in the claim, in order for the transmission to actually operate appropriately, or it would have been obvious to one of ordinary skill in the art at the time of the invention to make the transmission, already taught by Kinugasa et al. be 'controlled' so as to allow it to function with the vehicle.

7. Claims 15, 19, 22, 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinugasa et al. The reference to Kinugasa et al. is discussed above.

As regards claim 15 (and the limitations of claim 15 as incorporated into claim 24), the reference to Kinugasa et al. fails to explicitly teach that the energy storage device is charged and/or discharged as a function of the characteristic map. Kinugasa et al. teach that (a) the condition of the battery, and its ability to supply energy is taken into account in association with the determination of whether or not more power is required to meet the demands of the consumers (steps [3] and [4], col. 6, lines 56-65), and (b) the battery is charged with a resulting greater requirement of torque (col. 5, lines 17-26, change from T_2 to $T_2 + \Delta T$) from the engine driving the generator. Note that the battery capability is measured in step [3] and the map is changed if operation on the

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current map cannot be met by the combined energy supply available, which includes the battery's resources. This additionally constitutes at least an implicit teaching that the battery energy would be used to meet the demands. As such, it would have been obvious to one of ordinary skill in the art at the time of the invention to charge the battery or discharge the battery based on the characteristic map, for the purpose of meeting the power requirements.

As regards claim 22 (and the limitations of claim 22 as incorporated into claim 25), the reference to Kinugasa et al. fails to explicitly teach the system of Kinugasa et al. as applicable to a hybrid vehicle, further accounting for the speed and torque of a drive motor. It is well known in the automotive arts to provide a vehicle as a hybrid vehicle so as to take advantage of well known and well documented benefits in energy usage and combustible fuel conservation. As such, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the power management system and method taught by Kinugasa et al. to a hybrid vehicle having both an engine and an electric drive motor, for the well known advantages of conserving fuel required to operate the engine and/or reducing pollution. Further, if using such a method and apparatus in a hybrid vehicle, it would have been obvious to one of ordinary skill in the art at the time of the invention to take into account the analogous motor drive parameters (such as speed and torque) to those parameters of the engine which Kinugasa et al. initially anticipate measuring and using, so as to include the motor in the determination of the characteristic map, e.g., by taking into account at least the power drawn by the motor (as a consumer) and/or the power which may be delivered by the motor, when operating as a generator, under operating conditions such as regenerative braking.

As regards claim 23 (and the limitations of claim 23 as incorporated into claim 24), the reference to Kinugasa et al. fails to explicitly teach that the operating point is chosen to accommodate the electrical losses in power train drive power conversion without charging or discharging the battery. In that Kinugasa et al. initially teach that the choice of characteristic map is made based on a required power of the various power consumers and the engine output for generation is controlled based on the

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requirements of the consumers, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a loss term (either mechanical and/or electrical) associated with power conversion in the drive train, and include that term in the calculation of power required of the engine, so as to ensure that losses do not unduly drain the storage device (e.g., battery).

Response to Comments

8. Applicant's comments, filed with the amendment and request for continued examination, have been carefully considered. Applicant's reference to claim 1 is noted (see page 5 of the remarks). The reason the office action "does not explain why a person skilled in the art would not recognize the various features of claim 1" is simply because claim 1 is not pending, having been canceled as early as April of 2005 (by applicant's own action), and in general, the office action is not directed to canceled claims. Applicant's lengthy arguments directed to the previous rejections under 35 USC §112 first and second paragraphs as applied to claim 23 are noted. The examiner further notes that the rejection has been withdrawn in view of applicant's amendment to the claim. Applicant's arguments directed to the prior art rejections previously applied against the claims are noted. In view of applicant's amendment, the previous rejections are withdrawn. Note the reference to Kinugasa et al., now applied in direct response to applicant's amendment.

Conclusion

9. Any inquiry specifically concerning this communication or earlier communications from the examiner should be directed to F. Vanaman whose telephone number is 571-272-6701.

Any inquiries of a general nature or relating to the status of this application may be made through either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A response to this action should be mailed to:

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Mail Stop _____

Commissioner for Patents

P. O. Box 1450

Alexandria, VA 22313-1450,

Or faxed to:

PTO Central Fax: 571-273-8300

F. VANAMAN

Primary Examiner

Art Unit 3618

/Frank B Vanaman/

Primary Examiner, Art Unit 3618